including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

X^1 is C=O;

X^2 is CR^3;

X^3 is –NH-;

X^4 is CR^4;

X^5 is CR^5;

X^6 is CR^6;

R^1 is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl, or heteroaryl;

R^2 is cyano, hydroxy, oxo (double bond is no longer present between CR^2 and X^6), SR^7, $S(O)R^7$, SO_2R^7, $SO_2NR^8R^9$, CO_2R^7, $C(O)NR^8R^9$, or heteroaryl;

R^3 is hydrogen, hydroxy, halogen, cyano, CO_2R^7, NR^8R^9, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl or heteroaryl;

R^4, R^5, and R^6 are independently selected from the group consisting of hydrogen, halogen, nitro, cyano,
O-R^7, NR^8R^9, SR^7, $S(O)R^7$, SO_2R^7, SO_3R^7, $SO_2NR^8R^9$, CO_2R^7, $C(O)NR^8R^9$, C(O)alkyl, C(O)substituted alkyl, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl and substituted alkynyl;

R^7, R^{10}, and R^{11}, are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, alkenyl, alkynyl, cycloalkyl, substituted cycloalkyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O) substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl and heteroaryl;

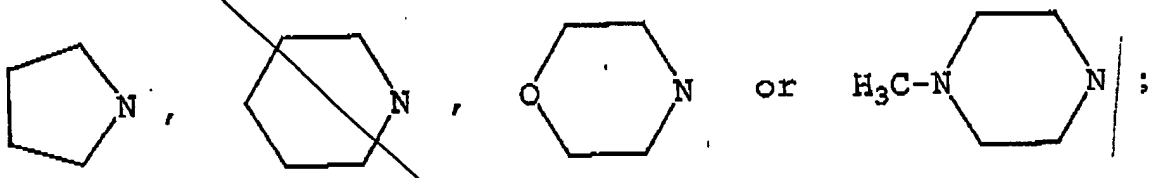
R^8 and R^9 are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, alkenyl, alkynyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O)substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl, and heteroaryl or R^8 and R^9 taken together with the nitrogen atom to which they are attached complete a heterocycloalkyl or heteroaryl ring;

R^3 and R^1 may be taken together with the carbon atoms to which they are attached to form a monocyclic or substituted monocyclic ring system of 5 or 6 carbon atoms; and

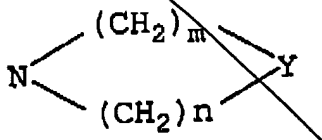
R^4 and R^5 may be joined together by the chain
–O-CH_2-O- or -O-CH_2-CH_2-O-;

with the following provisos:

(a) when R^1 is substituted or meta unsubstituted phenyl, R^3 is H, R^4 is H, R^5 is H and R^6 is H, then R^2 is not PhCONH,



(b) when R^1 is phenyl substituted with H, F, Cl, Br, I, CH_3, CF_3, OH, OCH_3, OCF_3, OCH_2CH_3, NH_2, $NHCH_3$, $N(CH_3)_2$, O-benzyl, $-C(=O)-R_0$, or $-C(=O)-OR_0$ and R_0 is a lower alkyl group, R^3 is H, R^4 is H, R^5 is H and R^6 is H, then R^2 is not



where Y is CH_2, O or S, m and n are each greater than 1, and the sum of m and n is between 3 and 6; and

(c) when R^2 is heteroaryl, at least one of the heteroatoms must be O.

Add the following new claims:

30. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 10.

31. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 11.

32. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 12.

33. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 13.

34. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comrpising; administering a therapeuticaly effective amount of a phosphodiesterase Type 4 inhibitor and a compound of claim 10.

35. (new) A method for the treatment or prevention of allograft rejection comprising: administering a therapeutically effective amount of a phosphodiesterase Type 4 inhibitor and a compound of claim 10.

a2

36. (new) A method of claim 34 wherein: the phosphodiesterase Type 4 inhibitor is Rolipram.

37. (new) A method of claim 34 wherein: the phosphodiesterase Type 4 inhibitor is [4-[3-(cyclopentyloxy)-4-methoxyphenyl]-2-pyrrolidinone].

38. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering an therapeutically effective amount of the pharmaceutical composition of Claim 17.

39. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and another agent known to be useful in treatment of such disorders.

40. (new) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and a phosphodiesterase Type 4 inhibitor.

41. (new) A method for the treatment or prevention of allograft rejection comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and a phosphodiesterase Type 4 inhibitor.

RESPONSE TO RESTRICTION REQUIREMENT

The Office Action states that the claims of this application recite five (5) separate classes of invention. The Office Action requests that the applicant elect one of these classes for prosecution and a single species within the elected group. In response to this restriction requirement, applicant has canceled Claims 1-9 (process claims) and 24-29 (process claims), and amended Claims 10-23, without prejudice. Applicant reserves the right to present claims to those inventions in one or more divisional applications.